CLAIMS

1. A control device of a vehicular fuel cell system, comprising:

a warm-up output control section operative, when a fuel cell system is started up under a low temperature condition and in case that a fuel cell stack of the fuel cell system is warmed up, causing the fuel cell stack to generate electric power to allow predetermined warm-up electric power to be taken out; and

a run permission section operative, during a period wherein the warm-up electric power is taken out by the warm-up output control section, to discriminate whether the fuel cell stack assumes a predetermined warm-up condition on the basis of one of a voltage value and an electric current value of the fuel cell stack, whereby when discrimination is made that the fuel cell stack assumes the predetermined warm-up condition, the run permission section provides a vehicle with run permission.

2. The control device according to claim 1, wherein the run permission section provides the vehicle with run permission when the voltage value of the fuel cell stack is equal to or more than a predetermined value.

3. The control device according to claim 1, wherein the run permission section provides the vehicle with run permission when the electric current value of the fuel cell stack is equal to or less than a predetermined value.

4. The control device according to claim 2, wherein the run permission section determines the predetermined value in dependence upon an electric current value appearing when the fuel cell stack generates electric power.

5. The control device according to claim 3, wherein the run permission section determines the predetermined value in dependence upon a voltage value appearing when the fuel cell stack generates electric power.

6. The control device according to claim 1, wherein the run permission section provides the vehicle with run permission when a temperature of coolant in the fuel cell stack is equal to or more than a predetermined value.

7. The control device according to claim 1, wherein when a temperature of coolant in the fuel cell stack is less than a predetermined value, the run permission section

controls an auxiliary device which is provided to a power plant including the fuel cell stack so as to heat the fuel cell stack.

8. The control device according to claim 7, wherein when the auxiliary device includes a combustor to which exhaust emitted from the fuel cell stack is introduced.

9. The control device according to claim 8, wherein the combustor is provided with an electric-heated catalyst section operative to be heated to a catalytic active temperature by electric heat, a catalytic combustor section combusting the exhaust, and a heat exchanger allowing combustion heat of the exhaust to be transferred to the coolant.

10. A control device of a vehicular fuel cell system, comprising:

a warm-up output controlling means, when a fuel cell system is started up under a low temperature condition and in case that a fuel cell stack of the fuel cell system is warmed up, for controlling the fuel cell stack to generate electric power to allow predetermined warm-up electric power to be taken out; and

a run permission providing means, while discriminating whether the fuel cell stack assumes a predetermined warm-up condition on the basis of one of a voltage value and an electric current value of the fuel cell stack during a period wherein the warm-up electric power is taken out by the warm-up output controlling means, for providing a vehicle with run permission when discrimination is made that the fuel cell stack assumes the predetermined warm-up condition.

11. A method of controlling a vehicular fuel cell system, the method comprising:

taking out predetermined warm-up electric power by controlling the fuel cell stack to generate electric power, when a fuel cell system is started up under a low temperature condition and in case that a fuel cell stack of the fuel cell system is warmed up; and

providing a vehicle with run permission when discrimination is made that the fuel cell stack assumes a predetermined warm-up condition, while discriminating whether the fuel cell stack assumes the predetermined warm-up condition on the basis of one of a voltage value and an electric current value of the fuel cell stack

during a period wherein the warm-up electric power is taken out.